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Formation of New York' (*American Geologist*, March, 1903); B. E. Livingston, 'The Distribution of the Plant Societies of Kent County, Mich. (Mich. Surv., 1901), by Professor Grabau. Stuart Weller, 'The Composition, Origin and Relationships of the Corniferous Fauna in the Appalachian Province of North America' (*Journal of Geology*, May-June, 1902); G. F. Matthew, 'Notes on Cambrian Faunas' (*Trans. Roy. Soc. Can.*, 1902-03), by Miss Florence Henry.

H. W. SHIMER.

NEW YORK SOCIETY OF BIOLOGY TEACHERS.

THE third meeting of the academic year was held Friday, January 30, 1903, at 8:15 P.M.

The topic for the evening's discussion was 'The Public Scientific Institutions and the School System.' Dr. H. C. Bumpus, of the American Museum of Natural History, opened the discussion. He said, in part, that certain of the collections had been directly planned with a view to helping teachers and students, that rooms and a working library had been set apart for their use, and that sets of guide leaflets had been issued for the express purpose of making the collections more directly available to the teaching public. He then indicated how certain exhibits might be arranged to cover a number of special subjects, and especially to bring the museum into use as a factor of public instruction in matters of current interest.

Dr. N. L. Britton then explained in detail to what extent the New York Botanical Gardens were available to teachers and students. Especially with reference to the trips under guidance of a detailed official, the permanent microscopic exhibit, the arboretum, the museum and public lectures, the garden was of practical assistance to the teacher. It was hoped later to furnish some plant material free to the board of education.

Dr. C. H. Townsend called attention to the fact that the New York Aquarium was already cooperating with the high schools of the city to the extent of setting aside material and balanced salt-water aquaria for them, and in closing the aquarium to the

public for two days in the week to allow classes from the schools to work in quiet. He furthermore offered to supply the schools with invertebrate material as needed in co-operation with the board of education.

Dr. A. G. Mayer pointed out some practical examples of what was being done by the Brooklyn Institute of Arts and Sciences for the schools, and gave his ideals of a children's museum which should be incorporated in the museum.

After the regular program a general discussion followed, with this practical result: A committee was appointed by the president of the association to endeavor to obtain, so far as possible, the fullest cooperation between the public scientific institutions and the city schools.

The following officers were elected to hold office for 1903:

President—H. A. Kelly, Ethical Culture School.

Vice-President—Miss K. B. Hixon, Morris High School.

Secretary—G. W. Hunter, Jr., DeWitt Clinton High School.

Treasurer—Miss I. M. Clennedin, Girls' High School, Brooklyn.

G. W. HUNTER, JR.,
Secretary.

DISCUSSION AND CORRESPONDENCE.

THE TYPES OF LINNÆAN GENERA.

THE interesting note of Mr. O. F. Cook, on the 'Types of Pre-Linnæan Genera' (*SCIENCE*, February 27, 1903, p. 350), touches the most important question still unsettled in the nomenclature of animals and plants. We have yet to agree on a means of fixing the type for the genera of the earlier writers, our conception of a genus being necessarily that of a cluster of species grouped around the type species of a genus. The fixation of type by elimination is an utter failure, as Mr. Cook has pointed out. It is impossible to define this process so as to bring out the same result in different hands and in different groups.

We have already recognized that the selection of names must not in any degree be left to individual choice. We must agree that the choice of the type of the genus must be made

with sole reference to the author in question and his sources of knowledge, and that the operations of subsequent writers are not to be considered. In choosing types for Linnæan genera, we must settle the matter with Linnæus himself, considering only his purpose, the knowledge he possessed and the sources whence he drew his information.

We have rarely any difficulty in indicating the species Linnæus would have chosen had he adopted the idea of type. To a certain extent he did recognize this idea, and he tells us that in each genus his type 'is the best known European or officinal species.' When he took his genera from Tournefort or Artdi, he presumably took the idea of type also, and to find this we may well look back to these earlier and greater naturalists.

In Linnæus's arrangement, the type was usually placed in the middle of the genus, for he was developing a system of catalogue and record. But nearly all subsequent authors have, under each genus, spoken first of the species they knew best, that which we should call the 'type.' Cuvier and his followers place as the 'chef de file' the type species or best-known form, describing it fully, letting the other species follow with shorter or comparative descriptions. Various authors have chosen Linnæan specific names for their genera, the species thus honored being clearly recognizable as the 'type.'

We may adopt as fair some such rule as this: The species first named under the description of a genus shall be regarded as its type unless, as with Linnæus, the context shows that some other species was or would have been chosen by the author, or unless the name of the genus is drawn from a Linnæan or other early specific name.

To take the first species in all cases, not even excepting the case of Linnæus, would have distinct advantages over the present lack of system or over the confusion arising from the method of elimination or from any other device which throws the responsibility on subsequent usage.

DAVID STARR JORDAN.

RIDGWAY'S CLASSIFICATION OF THE FALCONIFORMES.

NOTHING could be more gratifying to the advanced ornithologist than the vindication of Mr. Robert Ridgway's excellent classification of the diurnal birds of prey through the recent independent researches of foreign investigators.

However, when Mr. Ridgway seems to think that his arrangement, published 1873-76, 'so radically different from any other, found little favor among ornithologists and has generally become forgotten' (see SCIENCE, N. S., XVII., March 27, 1903, p. 510), he has evidently overlooked the fact that its essential points have been adopted by practically *all* his American colleagues.

The American Ornithologists' Union committee on classification and nomenclature in the spring of 1885, when preparing the now celebrated A. O. U. check-list of North American birds, had to decide what classification to follow. The present writer had then recently promulgated a new system of the entire class of birds, and several of the members were in favor of its adoption without modification. The majority, however, believed this to be a too radical departure from the then accepted standards to be palatable to the large number of amateur ornithologists forming the bulk of the A. O. U. membership. On the other hand, it was admitted that the Sundevall-Lilljeborg system then in vogue had become too antiquated to serve without serious changes. The writer, who was present by invitation as a consulting member without vote, was then requested to frame a compromise scheme which would eliminate some of the worst features of the old system without deviating too violently from it. The result was the classification still adhered to in the A. O. U. check-list.

The arrangement of the birds of prey in that list is briefly as follows:

- Order RAPTORES. Birds of Prey.
- Suborder SARCORAMPHI. American Vultures.
- Family CATHARTIDÆ. American Vultures.
- Suborder FALCONES. [Old World] Vultures, Falcons, Hawks, Buzzards, Eagles, Kites, Harriers, etc.